Project Scope

Project Name	Smart Agriculture System based on IoT
Project Manager	Suryansh Choudhary
Project Duration	4 weeks
Kickoff Date	June 8, 2020

Project Summary

- Smart Agriculture System based on IoT can monitor soil moisture and climatic conditions to grow and yield a good crop.
- The farmer can also get the realtime weather forecasting data by using external platforms like Open Weather API.
- The mobile app can monitor the temperature, humidity and soil moisture along with weather forecasts.
- Based on all parameters he can water his crop by controlling the motors using the mobile application from anywhere.

Project Requirements

- Monitor temperature, humidity and soil moisture remotely
- Display weather forecasts
- Control water motors remotely

Functional Requirements

- Use of various sensors to monitor temperature, humidity and soil moisture
- Monitoring climatic conditions
- Only sensors and weather API has the access to modify/change data shown in the system
- Developer has the access to add/remove/change features of the system
- Users only have access to view the data and control the motors

Technical Requirements

- Languages - Python & Javascript
- Operating System - Web App
- Temperature Sensor - LM35

- Humidity Sensor - DHT22
- Soil Moisture Sensor - VH400
- Cloud - IBM Cloud
- Simulator - IBM Watson Cloud Platform
- Web UI - Node Red

Software Requirements

- Node Red
- Python IDE
- IBM Cloud
- IBM Watson IoT Platform

Project Deliverables

- Web App UI for monitoring soil moisture and climatic conditions and for controlling motors remotely

Project Team

- Suryansh Choudhary - Project Manager

Project Schedule

S.No	Activity	Task	Date	Duration
1	Project Planning & Kickoff	Project Scope, Schedule, Team & Deliverable	8/6/20	1 Day
		Setup The Development Environment	9/6/20	1 Day
2	Explore IBM Cloud Platform	Create IBM Cloud Account	10/6/20	1 Hour
		Install The Node Red Locally	10/6/20	5 Hours
		IBM Watson IoT Platform	11/6/20	15 Minutes
		Install Python IDE	11/6/20	1 Day
3	Connect the IoT Platform To Watson IoT Platform	Connect The IoT Platform To Watson IoT Platform	12/6/20	15 Minutes
4	Research	Block Diagram Smart Agriculture System	12/6/20 to 15/6/20	3-4 Hours Each Day
5	Configure The Node Red To Get The Data From IBM IoT Platform & Open Weather API	Install The Required Nodes In Your Node Red	16/6/20	1 Hour
		Connect IBM IoT Device To Get The Simulator Data	16/6/20	1 Hour
		Configure The Node Red To Get The	16/6/20	1 Hour

		Data From IBM IOT Platform And Open Weather API		
		Configure Your Node Red To Get The Weather Forecasting Data Using HTTP Requests	16/6/20	30 Minutes
6	Building A Web App	Configure The Nodes To Display The Weather Parameters From IOT Simulator And Open Weather API In UI	17/6/20 to 23/6/20	4-5 Hours Each Day
		Configure The Nodes For Creating Buttons And Sending Commands To IOT Platform	24/6/20	2 Hours
7	Configure Your Device To Receive The Data From The Web Application And Control Your Motors	Write A Python Code To Subscribe To IBM IOT Platform And Get The Commands	25/6/20 to 28/6/20	3-4 Hours Each Day
8	Review	Review & Changes	29/6/20 to 1/7/20	2-3 Hours Each Day
9	Documentation	Project Documentation	2/7/20 to 3/7/20	2-3 Hours Each Day